

PARACHUTE RIGGER KNOWLEDGE TEST GUIDE



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PARACHUTE RIGGER KNOWLEDGE TEST GUIDE

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PREFACE

FAA-G-8082-15, Parachute Rigger Knowledge Test Guide, provides information for obtaining authorization to take the parachute rigger knowledge tests. Appendix 1 provides lists of reference materials and subject matter knowledge codes, and a list of computer testing designees (CTD's).

Changes to the subject matter knowledge codes will be published in AC 60-25, Reference Materials and Subject Matter Knowledge Codes for Airman Knowledge Testing.

The current Flight Standards Service airman training and testing material, questions banks, and subject matter knowledge codes for all airman certificates and ratings can be obtained from the Regulatory Support Division, AFS-600, home page on the Internet.

The Regulatory Support Division's Internet address is: <http://www.mmac.jccbi.gov/afs/afs600>

FAA-G-8082-15 supersedes Advisory Circular (AC) 65-27, Parachute Rigger Knowledge Test Guide, dated 1995, and can be purchased from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402-9325, or from U.S. Government Bookstores located in major cities throughout the United States. For an explanation of why the Flight and Ground Instructor Knowledge Test Guide was taken out of the AC system, refer to AC 60-29, Renumbering of Airman Training and Testing Publications.

Comments regarding this guide should be sent to the Federal Aviation Administration, Airman Testing Standards Branch, AFS-630, Attn: Parachute Rigger Certification Area Manager, P.O. Box 25082, Oklahoma City, OK 73125.

CONTENTS

Preface	iii
Contents	v
Introduction	1
Knowledge Test Eligibility Requirements	1
Knowledge Areas on the Tests	1
Descriptions of the Tests	1
Process for Taking A Knowledge Test	2
Use of Test Aids and Materials	3
Cheating or Other Unauthorized Conduct	4
Validity of Airman Test Reports	4
Retesting Procedures	4
Sample Test Questions and Answers:	
Parachute Rigger—Senior (RIG)	5
Parachute Rigger—Master (RMP)	6
Parachute Rigger—Military Competence (RMC)	7

APPENDIX 1

List of Reference Materials and Subject Matter Knowledge Codes	1-1
Supplemental Study Reference Materials	1-3
Computer Testing Designees	1-4

PARACHUTE RIGGER KNOWLEDGE TEST GUIDE

INTRODUCTION

What is required to become a skilled and effective parachute rigger? Although some individuals possess more knowledge and skills than others, no one is a natural-born rigger. Competent riggers become so through study, training, and experience.

This knowledge test guide will answer most of your questions about taking a parachute rigger knowledge test by covering the following areas: knowledge test eligibility requirements; knowledge areas on the tests; descriptions of the tests; process for taking a knowledge test; use of test aids and materials; cheating or other unauthorized conduct; validity of Airman Test Reports; and retesting procedures.

This will help in preparing you to take one or all of the following knowledge tests.

- ❖ Parachute Rigger—Senior (RIG)
- ❖ Parachute Rigger—Master (RMP)
- ❖ Parachute Rigger—Military Competence (RMC)

As parachuting has grown over the last 20 years, so has the need for skilled riggers. The introduction of the ram-air canopy gave the sport a parachute that is highly maneuverable and capable of gentle landings. This advancement of parachute technology opened the sport to many persons who would not have considered it a few years ago. As a result of the rapid expansion of parachute technology, today's riggers are faced with an ever expanding variety of equipment, materials, and rigging requirements. The ram-air canopy, being more complex than the simple round canopy of a few years ago, requires different packing and repair methods, making it essential that today's rigger possess a high degree of knowledge and skill.

This guide is not offered as an easy way to obtain the necessary information for passing the knowledge tests. Rather, the intent of this guide is to define and narrow the field of study to the required knowledge areas included in the tests.

KNOWLEDGE TEST ELIGIBILITY REQUIREMENTS

The general qualifications for a senior or master parachute rigger's certificate require that the you have a combination of experience, knowledge, and skill.

If you are pursuing a senior, master, or military competence certificate, you should carefully review the appropriate sections of Title 14 of the Code of Federal Regulations (14 CFR) part 65, subpart A and subpart F for detailed information pertaining to this subject.

KNOWLEDGE AREAS ON THE TESTS

Parachute rigger knowledge tests are comprehensive because they must test your knowledge in many subject areas.

If you are pursuing a senior parachute rigger certificate, you should review 14 CFR part 65, section 65.115 for the knowledge areas on the test.

If you are pursuing a military competence senior parachute rigger certificate, you should review 14 CFR part 65, section 65.117 for the knowledge areas on the test.

If you are pursuing a master parachute rigger certificate, you should review 14 CFR part 65, section 65.119 for the knowledge areas on the test.

DESCRIPTIONS OF THE TESTS

The maximum time allowed for taking each test is 2 hours for either the senior or master certificate, and 1 hour for the military competence test. The allotted time is based on previous experience and educational statistics. This amount of time is considered more than adequate for applicants with proper preparation and instruction.

The following tests each contain 50 questions, and you are allowed 2 hours to complete each test.

- ❖ Parachute Rigger—Senior (RIG)
- ❖ Parachute Rigger—Master (RMP)

The following test contains 25 questions, and you are allowed 1 hour to complete the test.

- ❖ Parachute Rigger—Military Competence (RMC)

All test questions are the objective, multiple-choice type. Each question can be answered by the selection of a single response. Each test question is independent of other questions; therefore, a correct response to one does not depend upon, or influence the correct response to another.

Communication between individuals through the use of words is a complicated process. In addition to being an exercise in the application and use of aeronautical knowledge, a test is also an exercise in communication since it involves the use of the written language. Since the tests involve written rather than spoken words, communication between the test writer and the person being tested may become a difficult matter if care is not exercised by both parties. Consequently, considerable effort is expended to write each question in a clear, precise manner. Applicants should carefully read the information and instructions given with the tests, as well as the statements in each test item.

When taking a test, keep the following points in mind:

- Answer each question in accordance with the latest regulations and guidance publications.
- Read each question carefully before looking at the possible answers. You should clearly understand the problem before attempting to solve it.
- After formulating an answer, determine which of the alternatives most nearly corresponds with that answer. The answer chosen should completely resolve the problem.
- From the answers given, it may appear that there is more than one possible answer; however, there is only one answer that is correct and complete. The other answers are either incomplete or are derived from popular misconceptions.
- If a certain question is difficult for you, it is best to mark it for review and proceed to the other questions. After you answer the less difficult questions, return to those which you marked for review and answer them. The review procedure will be explained to you prior to

starting the test. When you have finished taking the test, make sure an answer has been recorded for each question. However, the computer will alert you to all unanswered questions. This procedure will enable you to use the available time to the maximum advantage.

- When solving a calculation problem, select the answer closest to your solution. The problems have been checked with various types of calculators; therefore, if you have solved it correctly, your answer will be closer to the correct answer than any of the other choices.

PROCESS FOR TAKING A KNOWLEDGE TEST

If you are planning on taking the parachute rigger knowledge test for the first time, you will need to obtain permission to test. This may be accomplished at your local FAA Flight Standards District Office (FSDO) or International Field Office (IFO). This should be done before contacting the testing center. When you visit the FSDO or IFO, you will be asked to fill out an FAA Form 8610-2, Airman Certificate and/or Rating Application), and to show documentation of your experience. You must also provide a permanent mailing address and positive proof of identification. The identification presented must include your current photograph, signature, and actual residential address, if different from the mailing address. This information may be presented in more than one form of identification.

Acceptable forms of identification include, but are not limited to, driver's licenses, government identification cards, passports, alien residency (green) cards, and military identification cards. Other forms of identification that meet the requirements of this paragraph are acceptable. Some applicants may not possess the identification documentation described. If you are under the age of 21, your parent or guardian may have to accompany you and present identification of themselves as described previously. Your parent or guardian may then attest to your identity. In any case, you should always check with your local FSDO or IFO if you are unsure of what kind of authorization to bring to the office.

Once your eligibility has been established, you will be given FAA Form 8610-2 properly completed and signed by the interviewing Airworthiness Safety Inspector (ASI). This is the form you must present at the testing center to take the test.

The next step in taking the knowledge test is the registration process. The Federal Aviation Administration (FAA) has hundreds of computer testing centers available nationwide. These testing centers offer the full range of airman knowledge tests including parachute rigger. Refer to appendix 1 of this guide for list of computer testing designees. You may either call the central 1-800 numbers (refer to appendix 1 for 1-800 numbers) or simply use the walk-in basis. If you choose to use the 1-800 number to register, you will need to select a testing center, schedule a test date, and make financial arrangements for test payment. You may register for the tests several weeks in advance, and you may cancel your appointment according to the computer testing designee's (CTD's) cancellation policy. If you do not follow the CTD's cancellation policies, you could be subject to a cancellation fee.

At the test site, you will again be asked to provide proper identification and the completed FAA Form 8610-2. Testing center personnel will not begin the test until the required items are verified.

Before you take the actual test, you will have the option to take a sample test. The actual test is time limited; however, you should have sufficient time to complete and review your test.

Upon completion you will receive your Airman Test Report, with the testing center's embossed seal, which reflects your score.

The Airman Test Report lists the subject matter knowledge codes for questions answered incorrectly. The total number of subject matter knowledge codes shown on the Airman Test Report is not necessarily an indication of the total number of questions answered incorrectly. Appendix 1 contains a list of subject matter knowledge codes that refer to the knowledge areas. Study these knowledge areas to improve your understanding of the subject matter.

Should you require a duplicate Airman Test Report due to loss or destruction of the original, send a signed request accompanied by a check or money order for \$1 payable to the FAA. Your request should be sent to the Federal Aviation Administration, Airmen Certification Branch, AFS-760, P.O. Box 25082, Oklahoma City, OK 73125.

USE OF TEST AIDS AND MATERIALS

Airman knowledge tests require applicants to analyze the relationship between variables needed to solve aviation problems, in addition to testing for accuracy of a mathematical calculation. The intent is that all applicants are tested on concepts rather than rote calculation ability. It is permissible to use certain calculating devices when taking airman knowledge tests, provided they are used within the following guidelines. The term "calculating devices" is interchangeable with such items as calculators, computers, or any similar devices designed for aviation-related activities.

1. Guidelines for use of test aids and materials. The applicant may use test aids and materials within the guidelines listed below, if actual test questions or answers are not revealed.

a. Applicants may use test aids, such as scales, straightedges, protractors, plotters, navigation computers, log sheets, and all models of aviation-oriented calculating devices that are directly related to the test. In addition, applicants may use any test materials provided with the test.

b. Manufacturer's permanently inscribed instructions on the front and back of such aids listed in 1(a), e.g., formulas, conversions, regulations, signals, weather data, holding pattern diagrams, frequencies, weight and balance formulas, and air traffic control procedures are permissible.

c. The test proctor may provide calculating devices to applicants and deny them use of their personal calculating devices if the applicant's device does not have a screen that indicates all memory has been erased. The test proctor must be able to determine the calculating device's erasure capability. The use of calculating devices incorporating permanent or continuous type memory circuits without erasure capability are prohibited.

d. The use of magnetic cards, magnetic tapes, modules, computer chips, or any other device upon which prewritten programs or information related to the test can be stored and retrieved are prohibited. Printouts of data will be surrendered at the completion of the test if the calculating device used incorporates this design feature.

e. The use of any booklet or manual containing instructions related to the use of the applicant's calculating device is not permitted.

f. Dictionaries are not allowed in the testing area.

g. The test proctor makes the final determination relating to test materials and personal possessions that the applicant may take into the testing area.

2. Guidelines for dyslexic applicant's use of test aids and materials. A dyslexic applicant may request approval from the local Flight Standards District Office (FSDO) to take an airman knowledge test using one of the three options listed in preferential order:

a. Option One. Use current testing facilities and procedures whenever possible.

b. Option Two. Applicants may use Franklin Speaking Wordmaster® to facilitate the testing process. The Wordmaster® is a self-contained electronic thesaurus that audibly pronounces typed in words and presents them on a display screen. It has a built-in headphone jack for private listening. The headphone feature will be used during testing to avoid disturbing others.

c. Option Three. Applicants who do not choose to use the first or second option may request a test proctor to assist in reading specific words or terms from the test questions and supplement material. In the interest of preventing compromise of the testing process, the test proctor should be someone who is non-aviation oriented. The test proctor will provide reading assistance only, with no explanation of words or terms. The Airman Testing Standards Branch, AFS-630, will assist in the selection of a test site and test proctor.

CHEATING OR OTHER UNAUTHORIZED CONDUCT

Computer testing centers follow strict security procedures to avoid test compromise. These procedures are established by the FAA and are covered in FAA Order 8080.6, Conduct of Airman Knowledge Tests. The FAA has directed testing centers to terminate a test any time a test administrator suspects a cheating incident has occurred. An FAA investigation will then follow. If the investigation determines that cheating or other unauthorized conduct has occurred, any airman certificate or rating that you hold may be revoked, and you will be prohibited to take a test for 1 year.

VALIDITY OF AIRMAN TEST REPORTS

Airman Test Reports are valid within the 24-calendar month period preceding the month you complete the practical test. If the Airman Test Report expires before completion of the practical test, you must retake the knowledge test.

RETESTING PROCEDURES

If you receive a grade lower than 70 percent and wish to retest, you must present the following to testing center personnel.

- failed Airman Test Report; and
- a written endorsement from an authorized instructor certifying that additional instruction has been given, and the instructor finds the applicant competent to pass the test.

If you decide to retake the test in anticipation of a better score, you may retake the test after 30 days from the date your last test was taken. The FAA will not allow you to retake a passed test before the 30-day period has lapsed. Prior to retesting, you must give your current Airman Test Report to the test administrator. The last test taken will select the official score.

SAMPLE TEST QUESTIONS AND ANSWERS

PARACHUTE RIGGER—SENIOR (RIG)

The questions in this section are similar to some of those contained in FAA knowledge tests for parachute riggers. The subjects covered here represent only a sampling of the subjects covered on the actual test.

1. When operating a sewing machine, which of the following can occur if the pressure foot has too much pressure on it?

- A—Stitches will break.
- B—Fabric may pucker.
- C—Staggered stitches.

Answer B—Subject Matter Knowledge Code: P33. Fabric may pucker. The Parachute Manual, by Poynter Publishing Volume I, Third Edition, Chapter III, Section 3.706.

Too much pressure makes the machine run hard and the feed dog may leave marks in the material; canopy fabric may pucker.

2. Why is clear plastic tubing placed around the Rapide links and hand tacked in place on some main risers of ram-air canopies?

- A—To protect the suspension line lower finger trap loops.
- B—To protect the canopy slider grommets.
- C—To prevent barrel nut from working loose.

Answer B—Subject Matter Knowledge Code: P34. To protect the canopy slider grommets. The Parachute Manual, by Poynter Publishing Volume II, Chapter Four, Section 4.155.

Slider bumpers are clear plastic tubing placed over the Rapide links on the main rises to protect the grommets in the canopy slider from damage.

SAMPLE TEST QUESTIONS AND ANSWERS

PARACHUTE RIGGER—MASTER (RMP)

3. Which component of a single harness dual pack assembly may an appropriately rated master rigger alter without approval?

- A—Harness.
- B—Reserve canopy
- C—Main canopy pilot chute.

Answer C—Subject Matter Knowledge Code: A44. Main canopy pilot chute. 14 CFR part 65, section 65.125(c).

4. Which of the following repairs require a master parachute rigger certificate to accomplish?

- A—Replace grommets in the slider of the main canopy.
- B—Splice control line on certificated canopy.
- C—Restitch container seam on main parachute assembly.

Answer B—Subject Matter Knowledge Code: P57. Splice control line on certificated canopy. The Parachute Manual, by Poynter Publishing Volume II, Chapter Seven, Section 7.24.

Repair Personnel: Non-certificated canopy: Senior or Master Parachute Rigger. Certificated canopy: Master Parachute Rigger.

SAMPLE TEST QUESTIONS AND ANSWERS

PARACHUTE RIGGER—MILITARY (RMC)

5. When a certificated Senior parachute rigger packs the main parachute of a dual parachute pack that is to be used for intentional jumping, the rule states, the rigger

A—shall pack the parachute only at his or her facility.

B—may pack the parachute at locations other than his or her facility.

C—shall seal the parachute with an identifying mark prescribed by the administrator.

Answer B—Subject Matter Knowledge Code: A44. The rigger may pack the parachute at locations other than his or her facility. 14 CFR part 65, section 65.125(c).

6. What Code of Federal Regulation (CFR) prescribes rules governing parachute jumping?

A—14 CFR part 105.

B—14 CFR part 103.

C—14 CFR part 65.

Answer A—Subject Matter Knowledge Code: L90. 14 CFR part 105 - PARACHUTE JUMPING.

APPENDIX 1

LIST OF REFERENCE MATERIALS AND SUBJECT MATTER KNOWLEDGE CODES

The publications listed in the following pages contain study material you need to be familiar with when preparing for the parachute rigger knowledge tests. All of these publications can be purchased through U.S. Government Bookstores, commercial aviation supply houses, or industry organizations. The latest revision of the listed references should be requested. Additional study material is also available through these sources that may be helpful in preparing for the parachute rigger knowledge tests.

The subject matter knowledge codes refer to the specific reference for the knowledge standard. When reviewing results of your knowledge test, you should compare the subject matter knowledge code(s) on your Airman Test Report to the ones found below. This will be helpful for both review and preparation for the practical test.

Title 14 of the Code of Federal Regulation (14 CFR) part 1—Definitions and Abbreviations

- A01 General Definitions
- A02 Abbreviations and Symbols

14 CFR part 183—Representatives of the Administrator

- E150 General
- E152 Kinds of Designations: Privileges

14 CFR part 39—Airworthiness Directives

- A13 General
- A14 Airworthiness Directives

ADDITIONAL ADVISORY CIRCULARS

- K45 AC 39-7, Airworthiness Directives
- L90 AC 105-2, Sport Parachute Jumping

14 CFR part 65—Certification: Airmen Other Than Flight Crewmembers

- A40 General
- A44 Parachute Riggers

The Parachute Manual—Para Publishing

- P31 Regulations
- P32 The Parachute Rigger Certificate
- P33 The Parachute Loft
- P34 Parachute Materials
- P35 Personnel Parachute Assemblies
- P36 Parachute Component Parts
- P37 Maintenance, Alteration, and Manufacturing Procedures
- P38 Design and Construction
- P39 Parachute Inspecting and Packing
- P40 Glossary/Index

14 CFR part 91—General Operating and Flight Rules

- B12 Special Flight Operations

14 CFR part 105—Parachute Jumping

- C01 General
- C02 Operating Rules
- C03 Parachute Equipment

The Parachute Manual, Vol. II—Para Publishing

- P51 Parachute Regulations
- P52 The Parachute Rigger's Certificate

Appendix 1

P53	The Parachute Loft
P54	Parachute Materials
P55	Personnel Parachute Assemblies
P56	Parachute Component Parts
P57	Maintenance, Alteration, and Manufacturing
P58	Parachute Design and Construction
P59	Parachute Inspection and Packing

Technical Standard Orders

Y60	TSO-C23b, Parachute
Y61	TSO-C23c, Personnel Parachute Assemblies
Y62	TSO-C23d, Personnel Parachute Assemblies

NOTE: AC 00-2, Advisory Circular Checklist, transmits the status of all FAA advisory circulars (AC's), as well as FAA internal publications and miscellaneous flight information such as Airman's Information Manual, Airport/Facility Directory, knowledge test guides, practical test standards, and other material directly related to a certificate or rating. AC 00-2 is accessible through the Internet at <http://www.faa.gov/abc/chklst/actoc.htm>, or you may obtain a free copy from:

U.S. Department of Transportation
Subsequent Distribution Office, SVC-121.23
Ardmore East Business Center
3341 Q 75th Ave.
Landover, MD 20785

SUPPLEMENTAL STUDY REFERENCE MATERIALS

- ❖ Parachuting, The Skydiver's Handbook, Poynter, Para Publishing
- ❖ Parachute Riggering Course, Poynter, Para Publishing
- ❖ The Rigger's Sourcebook, Blackmon
- ❖ Sky Diving, Beckman, Sterling Publishing Company
- ❖ Packing the Personnel Back (HALO) Parachute, ST 10-501-22, U.S. Army
- ❖ Organizational and DS Maintenance Manual including Repair Parts and Special Tools for MC-3 Free-Fall Parachute System, TM 10-1670-264-13&P, Department of the Army, and Air Force
- ❖ Aviation - Crew Systems Parachutes, NAVAIR 13-1-6.2 Department of the Navy Parachute Owner's Manuals by various manufacturers

COMPUTER TESTING DESIGNEES

The following is a list of the computer testing designees authorized to give FAA airman knowledge tests. This list should be helpful in case you choose to register for a test or simply want more information.

Computer Assisted Testing Service (CATS)

1849 Old Bayshore Highway
Burlingame, CA 94010

Applicant inquiry and test registration: 1-800-947-4228
From outside the U.S. (650) 259-8550

Sylvan Prometric

1000 Lancaster Street
Baltimore, MD 21202

Applicant inquiry and test registration: 1-800-274-1900, 1-800-967-1100, or 1-800-359-3278
From outside the U.S. registrants should contact the appropriate Regional Service Center (RSC):

London, England RSC	44-181-607-9090
Paris, France RSC	33-1-4289-3122
Dusseldorf, Germany RSC	49-2159-9233-50
Tokyo, Japan RSC	813-3269-9620
Latin America RSC	(612) 820-5200

LaserGrade Computer Testing

16209 S.E. McGillivray, Suite L
Vancouver, WA 98683

Applicant inquiry and test registration: 1-800-211-2753 or 1-800-211-2754
From outside the U.S. (360) 896-9111